In the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method of time scale modification of a digital audio signal comprising the steps of:

reading digital audio data from a data storage media;

employing a digital signal processor to

~~analyzing an input signal~~ analyze the digital audio data in a set of first equally spaced, overlapping time windows having a first overlap amount S_a;

~~selecting~~ select a base overlap S_s for output synthesis corresponding to a desired time scale modification;

~~calculating~~ calculate a cross-correlation R[k] for index value k between overlapping frames for a range of overlaps between $S_s + k_{min}$ to $S_s + k_{max}$ for only a fixed length overlap region less than an entire overlapping region;

~~selecting~~ select a value K yielding the greatest cross-correlation value R[k];

~~synthesizing~~ synthesize an output signal in a set of second equally spaced, overlapping time windows having a second overlap amount equal to $S_s + K$; and

producing an output corresponding to the output signal synthesized by the digital signal processor having the desired time scale modification relative to the digital audio data read from the storage media.

2. (Currently Amended) A method of time scale modification of a digital audio signal comprising the steps of:

reading digital audio data from a data storage media;

employing a digital signal processor to

~~analyzing an input signal~~ analyze the digital audio data in a set of first equally spaced, overlapping time windows having a first overlap amount S_a;

~~selecting~~ select a base overlap S_s for output synthesis corresponding to a desired time scale modification;

~~calculating~~ calculate the cross-correlation R[k] for index value k between overlapping frames for a range of overlaps between $S_s + k_{min}$ to $S_s + k_{max}$ for only a fixed length overlap region less than an entire overlapping region employing the equation

$$R[k] = \sum_{i=initial\_x}^{final\_x} sign\{y[mS_s + i + k]\}.sign\{x[mS_a + i]\}$$

where: x[i] is the analysis of the input signal for index value i; y[i] is a synthesis signal for the index value i;

~~selecting~~ select a value K yielding the greatest cross-correlation value R[k];

~~synthesizing~~ synthesize an output signal in a set of second equally spaced, overlapping time windows having a second overlap amount equal to $S_s + K$; and

producing an output corresponding to the output signal synthesized by the digital signal processor having the desired time scale modification relative to the digital audio data read from the storage media.

3. (Original) The method of claim 1, wherein:

said step of calculating the cross-correlation R[k] employs only a center half of the overlap region for k = 0.

4. (Previously Presented) A digital audio apparatus comprising:

a source of a digital audio signal;

a digital signal processor connected to said source of a digital audio signal programmed to perform time scale modification on the digital audio signal by

analyzing an input signal in a set of first equally spaced, overlapping time windows having a first overlap amount,

selecting a base overlap S_s for output synthesis corresponding to a desired time scale modification,

calculating a cross-correlation R[k] for index value k between overlapping frames for a range of overlaps between $S_s + k_{min}$ to $S_s + k_{max}$ for only a fixed length overlap region less than an entire overlapping region;

selecting a value K yielding the greatest cross-correlation value R[k],

synthesizing an output signal in a set of second equally spaced, overlapping time windows having a second overlap amount equal to $S_s + K$; and

an output device connected to the digital signal processor for outputting the time scale modified digital audio signal.

5. (Previously Presented) A digital audio apparatus comprising:

a source of a digital audio signal;

a digital signal processor connected to said source of a digital audio signal programmed to perform time scale modification on the digital audio signal by

analyzing an input signal in a set of first equally spaced, overlapping time windows having a first overlap amount,

selecting a base overlap S_s for output synthesis corresponding to a desired time scale modification,

calculating a cross-correlation R[k] for index value k between overlapping frames for a range of overlaps between

$S_s + k_{min}$ to $S_s + k_{max}$ for only a fixed length overlap region less than an entire overlapping region employing the equation

$$R[k] = \sum_{i=initial\_x}^{final\_x} sign\{y[mS_s + i + k]\}.sign\{x[mS_a + i]\}$$

where: x[i] is the analysis of the input signal for index value i; y[i] is a synthesis signal for the index value i,

selecting a value K yielding the greatest cross-correlation value R[k],

synthesizing an output signal in a set of second equally spaced, overlapping time windows having a second overlap amount equal to $S_s + K$; and

an output device connected to the digital signal processor for outputting the time scale modified digital audio signal.

6. (Original) The digital audio apparatus of claim 4, wherein:

said digital signal processor is programmed to calculate the cross-correlation R[k] employing only a center half of the overlap region for k = 0.